Recycling Materials Survey

AASHTO SOM

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Topics/Agenda

Recycled Materials Survey
- RAP, RAS, RCA

Results

Survey Points of Interest

Moving Forward

“The greatest gap in life is the one between knowing and doing.”

Dick Biggs
Recycled Materials Survey

- Conducted through AASHTO SOM List Serve.
- Sent end of December 2010.
- Various questions related to RAP, RAS, RCA.
- 45 state responses plus West Federal Lands and Ontario.
- Some data used is from 2007/2008 survey due to lack of responses.
Survey (cont)

Main Survey Questions

- Allowance of recycled materials (RAP, RAS, RCA) per specifications?
- Contractors actual usage of recycled materials?
- Special testing/handling procedures?
- Research needs, major concerns/obstacles for increased usage of recycled materials?
RAP Survey

Items of note from survey…

- **RAP Availability** – contractor/DOT ownership?
- **WMA** - Increased usage during DOT implementation?
- **Stockpiles** - Fractionation, captive stockpiles becoming more prevalent?
Research Needs:

- Needed dwell time for mixing?
- Mix performance tests (long-term durability, thermal cracking, f/t resistance).
- Binders - bumping, blending, stiffness/cracking, interaction with polymers.
- Determining RAP binder properties.
- Skid resistance.
Since 2007/2008 Survey...

- RAP % *allowed* by percentage has stayed pretty consistent for DOT’s.

- For RAP *utilization* by contractors, it appears the 20-30% usage has increased the most with all other percentages staying pretty much the same.
RAS Survey

Items of note from survey...

- **Sources** – pre/post consumer supply (about 50/50).
- **Special Requirements** – gradations, asbestos testing.
RAS Survey (cont)

Research Needs

- % binder contribution
- Mix performance testing
- Binder bumping, blending
- Fatigue and low temperature cracking
- Use in WMA?
- Use of rejuvenators
- Binder impacts
RCA Survey

- 80% of states responding allow use of RCA in some form.
- Uses – mostly as recycled aggregate base or fill; some use in new PCC, LCB, HMA.
- Concerns/Obstacles – stockpile contamination/management, durability, unknown sources of aggregates, ASR, leaching, pH levels.
RCA Survey (cont)

Research Needs

- Durability of PCC w/RCA
- Use of unknown RCA w/r/t ASR & D-cracking
- Clogging of underdrains from RCA fines
- Sample specifications
- Leaching, pH
Moving Forward

- Market successful projects.
- Address research needs.
- All must work together – DOT’s, contractors, industry, academia.

“If we’re here to make a difference – and why else are we here – we have to do things that have never been done before. To many people that’s a risk. To me it’s an adventure.”

Gwen Edwards
Thank you for your time and attention

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